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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/645,896	08/25/2000	Jeffrey J. Gold	PD-200223	6089

7590 05/16/2005

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EXAMINER	
STEVENS, THOMAS H	

ART UNIT	PAPER NUMBER
2123	

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/645,896	GOLD, JEFFREY J.	
	Examiner	Art Unit	
	Thomas H. Stevens	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-15 were examined.

Section I: Response to Applicant's Arguments (from 2nd office action)

35 USC § 112

2. Applicant is thanked for addressing this issue. Rejection is withdrawn.

35 USC § 103

3. Applicant is thanked for addressing this issue. Applicant is respectfully reminded that since the claimed invention is considered as a whole, therefore the references must be considered as a whole and must be suggested the desirability and thus the obviousness or making a combination with reason able expectation of success is the standard with which obviousness is determined. In light of new art, rejections are withdrawn.

Section II: Non-Final Office Action (3rd office action)

Obviousness Double Patenting Rejection

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225

USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 13-15 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,684,182 (Gold et al (2004)). Although the conflicting claims are not identical, they are not patentably distinct from each other because the issued patent's teaching of a spacecraft emulation system is generalized: emulated spacecraft control processor with emulated I/O interface to communicate spacecraft data (column 5, lines 53-55) such as non-attitude control; ground status; telemetry information; by way of a host computer (column 6, lines 16-18). In comparison to claims 13-15 of the application, the claims disclose emulation of spacecraft status and control client for generating identification information for simulation ground station: range data generator with a data being attitude, azimuth, elevation, tracking (claim 14); all linked to a single unit (claim 15).

At the time of invention, it would have been obvious to one of ordinary skill in the art, that the application present detailed limitations of real-time simulated events between a plurality of ground stations, relative to the patent. This is obvious double patenting.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Gold et al. (U.S. Patent 6,684,182 (2004)). Gold et al. teaches a spacecraft emulation system that can emulate both the attitude control subsystem and the non-attitude control subsystem into a single compact unit (abstract).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claim 1:A method of simulating the operation of a spacecraft (column 5, line 52) comprising the steps of requesting a connection to one of a plurality of simulated ground stations (column 6, lines 14-15); generating a range server name (as part of the TCP/IP address: column 3, lines 60-65); in response: other range server name (as part of the TCP/IP address: column 3, lines 60-65), generating server location parameters; instantiating a range server dedicated to a single ground station (column 5, lines 14-16); calculating range data for each of the plurality of simulated ground stations (inherent to the function of simulating/emulating between ground and orbiter: column 6, lines 46-58; and column 3, lines 37-39); and, providing the range data for one of the plurality of simulated ground stations (inherent to the function of simulating/emulating between ground and orbiter: column 6, lines 46-58 and column 3, lines 37-39).

Claim 2:A method as recited in claim 1 (column 5, line 52; inherent to the function of simulating/emulating between ground and orbiter: column 6, lines 46-58) wherein the

step of requesting comprises the step of requesting a connection to a simulated ground station from a spacecraft status and control client (column 5, lines 14-23).

Claim 3:A method as recited in claim 1 (column 5, line 52; inherent to the function of simulating/emulating between ground and orbiter: column 6, lines 46-58; column 5, lines 14-23) wherein the step of having a common IP address (column 3, lines 60-65), for the plurality of simulated ground stations while providing a unique port address for each simulated ground station (as part of the TCP/IP address: column 3, lines 60-65).

Claim 4: A method as recited in claim 1 (column 5, line 52; inherent to the function of simulating/emulating between ground and orbiter: column 6, lines 46-58; column 5, lines 14-23) wherein the step of requesting comprises requesting a connection to multiple ground stations, wherein each ground station has a unique port address and a common port IP address (multiple terminals, multiple stations, thus multiple IP address: column 5, lines 14-22).

Claim 5: A method as recited in claim 4 (column 5, line 52; inherent to the function of simulating/emulating between ground and orbiter: column 6, lines 46-58; column 5, lines 14-23) wherein the step of generating a range comprises generating the range server name in response to the unique port address and using that name to instantiate a range server specific to a unique ground station (multiple terminals, multiple stations, thus multiple IP address: column 5, lines 14-22).

Claim 6: A method as recited in claim 1 (column 5, line 52; inherent to the function of simulating/emulating between ground and orbiter: column 6, lines 46-58; column 5, lines 14-23; and column 6, lines 62-63) further comprising the step of providing tracking information for the one of the plurality of simulated ground stations (multiple terminals, multiple stations, thus multiple IP address: column 5, lines 14-22).

Claim 7:A method of simulating the operation of a spacecraft (column 5, line 52) comprising the steps of generating range (inherent to the function of simulating/emulating between ground and orbiter: column 6, lines 46-58 and column 3, lines 37-39), attitude (column 5, line 30) and elevation data for a plurality of ground stations simultaneously (multiple terminals, multiple stations, thus multiple IP address: column 5, lines 14-22); identifying a desired ground station from the plurality of ground stations; and, providing range data for the desired ground station to a real time client (columns 5-6, lines 65-67 and 1-3, respectively).

Claim 8: A method as recited in claim 7 (column 5, lines 30, 52; multiple terminals, multiple stations, thus multiple IP address: column 5, lines 14-22; columns 5-6, lines 65-67 and 1-3, respectively) wherein the step of identifying comprises the step of generating a range server name (multiple terminals, multiple stations, thus multiple IP address: column 5, lines 14-22) and generating a tracking server name (tracking

inherent normal data collection between orbiter and ground: column 6, lines 62-63; multiple terminals, multiple stations, thus multiple IP address: column 5, lines 14-22)

Claim 9: A method as recited in claim 7 (column 5, lines 30, 52; multiple terminals, multiple stations, thus multiple IP address: column 5, lines 14-22; columns 5-6, lines 65-67 and 1-3, respectively) wherein the step of identifying further comprises in response to the step of generating a range server name (multiple terminals, multiple stations, thus multiple IP address: column 5, lines 14-22) and tracking server name, generating server (column 3, lines 62-65) location parameters.

Claim 10: A method as recited in claim 7 (column 5, lines 30, 52; multiple terminals, multiple stations, thus multiple IP address: column 5, lines 14-22; columns 5-6, lines 65-67 and 1-3, respectively) further comprising the step of generating a connection (column 4, lines 29-42) to one of the plurality of simulated ground stations.

Claim 11: A method as recited in claim 7 (column 5, lines 30, 52; multiple terminals, multiple stations, thus multiple IP address: column 5, lines 14-22; columns 5-6, lines 65-67 and 1-3, respectively) wherein the step of requesting comprises the step of requesting a connection (column 4, lines 29-42) to the multiple ground stations, wherein each ground station has a unique port address (multiple terminals, multiple stations, thus multiple IP address: column 5, lines 14-22).

Claim 12: A method as recited in claim 8 (column 5, lines 30, 52; multiple terminals, multiple stations, thus multiple IP address: column 5, lines 14-22; columns 5-6, lines 65-67 and 1-3, respectively) wherein the step of generating a range server name comprises generating the range server name in response to the unique port address and wherein the step of generating a tracking server name comprises generating the tracking server name in response to the unique port address (multiple terminals, multiple stations, thus multiple IP address: column 5, lines 14-22).

Claims 13: A spacecraft emulation system comprising: a spacecraft status and control client (abstract); an interface coupled to the spacecraft status and control client for generating identification information for a desired ground station; a range data generator for generating range data for a plurality of ground stations (multiple terminals, multiple stations, thus multiple IP address: column 5, lines 14-22); and, a range server coupled to the range data generator (column 4, lines 29-42; tracking inherent to the daily routine between ground station and orbiter: column 6, lines 61-64) and spacecraft status and control client having the range data for said plurality of ground stations therein, said range server providing range data to said spacecraft status and control client (column 6, lines 65-67).

Claim 14: A spacecraft emulation system as recited in claim 13 (abstract; multiple terminals, multiple stations, thus multiple IP address: column 5, lines 14-22; column 6, lines 65-67) further comprising a tracking server coupled elevation and attitude (column 5, line 31) data generator and the spacecraft status and control client (column 3, lines

50-67), the tracking server providing elevation and azimuth data to said spacecraft status and control client (tracking=simulated system dynamics, column 6, lines 37-45).

Claim 15: A spacecraft emulation system as recited in claim 13 (abstract; multiple terminals, multiple stations, thus multiple IP address: column 5, lines 14-22; column 6, lines 65-67; column 3, lines 50-67; tracking=simulated system dynamics, column 6, lines 37-45) wherein said interface, range data generator, range server, tracking data generator and tracking server are coupled within a single unit (tracking=simulated system dynamics, column 6, lines 30-45).

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Tom Stevens whose telephone number is 571-272-3715, Monday-Friday (8:00 am- 4:30 pm) or contact Supervisor Mr. Kevin Teska at (571) 272-3716. Fax number is 571-273-3715.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

May 5, 2005

KEVIN J. TESKA
SUPERVISORY
PATENT EXAMINER

THS